

Mononuclear d^7 complexes of platinum metals

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ABBREVIATIONS

acacen	ethylenebis(acetylacetonimine)
bipy	2,2'-bipyridyl
Bu	<i>n</i> -butyl
Bu'	<i>tert</i> -butyl
create	creatinine
cod	cyclooctadiene
Cy	cyclohexyl
dbc	3,5-di- <i>tert</i> -butylcatecholate
diamsar	1,8-diamino-3,6,10,13,16,19-hexaazabicyclo[6.6.6]icosane

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dmgH	dimethylglyoxime monoanion
dpc	dipicolinic acid
dppe	1,2-bis(diphenylphosphino)ethane
dppp	1,3-bis(diphenylphosphino)propane
ESR	electron spin resonance
ESCA	electron spectroscopy for chemical analysis
Et	ethyl
IR	infrared
Me	methyl
NMR	nuclear magnetic resonance
<i>o</i> -MeCys	cysteinate methylester
pc	phthalocyanine
pd	pentane-2,4-dionate
Ph	phenyl
phen	1,10-phenanthroline
psp	polymeric diphenylbenzylphosphine
pz	pyrazolyl
salen	N,N'-ethylenebis(salicylideneimine)
<i>s</i> -bqdi	<i>semi-o</i> -benzoquinonediimine
SCF-Xa-SW	self-consistent field-Xa-scattered wave
<i>s</i> -disn	<i>semi</i> -diiminosuccinonitrile
sep	1,3,6,8,10,13,6,19-octaazabicyclo[6.6.6]icosane
siphos	tris(trimethylsilylmethyl)phosphine
tacn	1,4,7-triazacyclononane
tmpp	tris(2,4,6-trimethoxyphenyl)phosphine
TMP	tetramesitylporphyrin(dianion)
TPP	tetraphenylporphyrin(dianion)
tren	2,2',2''-triaminotriethylamine
ttcn	1,4,7-trithiacyclononane
XPS	X-ray photoelectron spectroscopy

A. INTRODUCTION

Coordination compounds of d^7 platinum metal ions have so far attracted less attention than those of d^5 , d^6 metal ions of ruthenium and osmium, and d^6 , d^8 metal ions of rhodium, iridium, palladium and platinum. There is a marked contrast in the behaviour of coordination compounds of d^7 metal ions between iron, cobalt and nickel on one hand and those of the platinum metals on the other. d^7 Platinum metal species are generally found in dinuclear systems. Dimerization is obtained either by direct metal-metal interaction or by metal-ligand-ligand-metal interaction. Assuming that metal-metal interaction requires location of the unpaired electron on the metal centre and that metal-ligand-ligand-metal interaction requires location of the unpaired electron on the ligand, then localization of the unpaired

